

July 25, 1933.

R. H. HELSEL

1,919,652

CHECK ISSUING MACHINE

Filed May 21, 1931

2 Sheets-Sheet 1

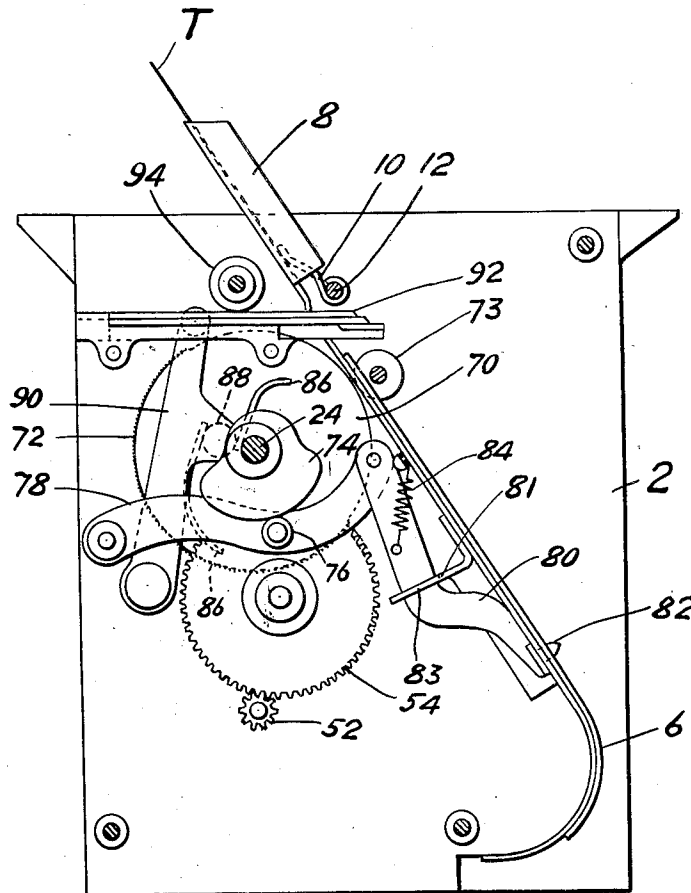


FIG. 1.

WITNESS:

Rt. Mitchell

INVENTOR

Reuben H. Helsel

BY

Bussor & Harding
ATTORNEYS.

July 25, 1933.

R. H. HELSEL

1,919,652

CHECK ISSUING MACHINE

Filed May 21, 1931

2 Sheets-Sheet 2

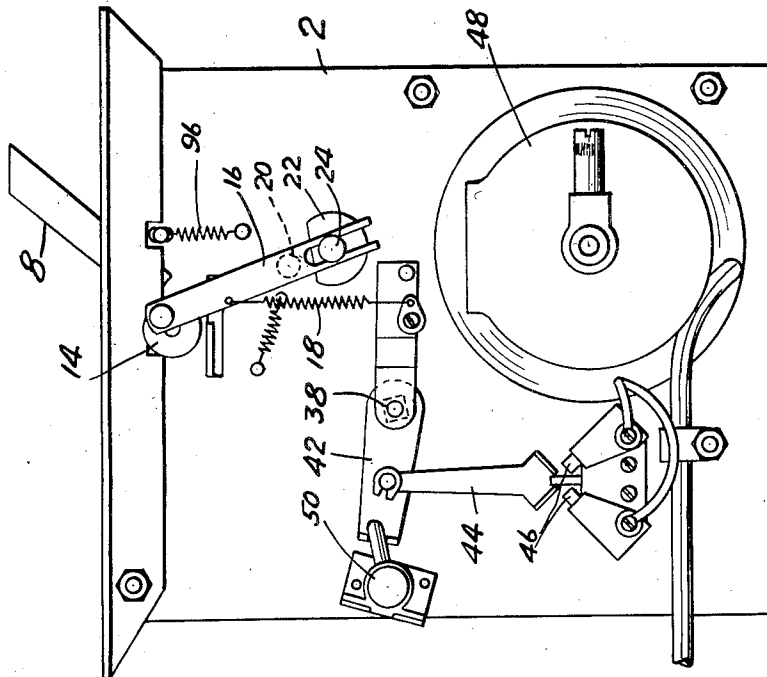


FIG. 3.

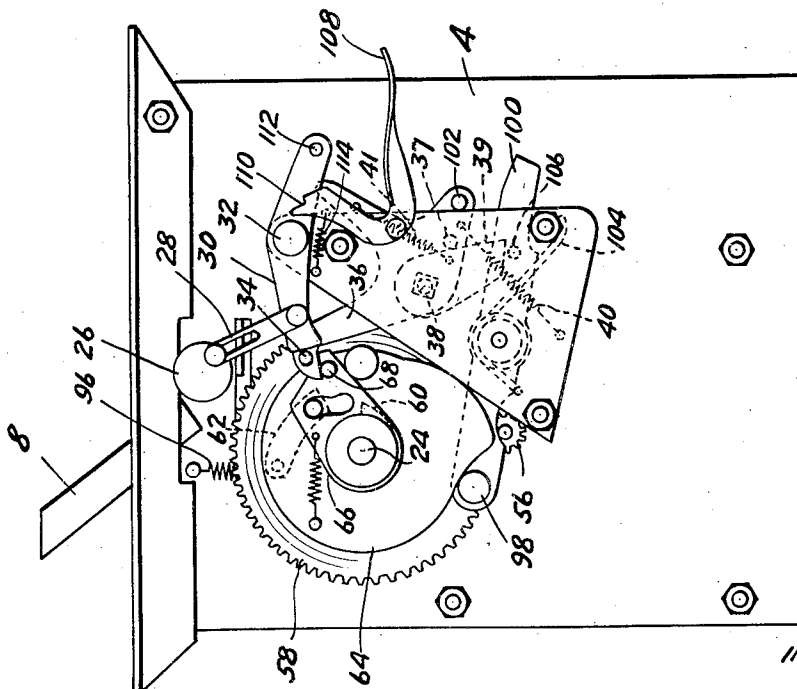


FIG. 2.

WITNESS:

R. H. Helsel

INVENTOR

Reuben H. Helsel

BY

Bussell & Harding
ATTORNEYS.

UNITED STATES PATENT OFFICE

REUBEN H. HELSEL, OF LONG ISLAND CITY, NEW YORK, ASSIGNOR TO GENERAL REGISTER CORPORATION, OF BROOKLYN, NEW YORK, A CORPORATION OF PENNSYLVANIA

CHECK ISSUING MACHINE

Application filed May 21, 1931. Serial No. 538,928.

This invention relates to a ticket issuing machine and particularly a machine in which a ticket is always presented for manual removal, the removal of the presented ticket effecting operation of the machine to project a subsequent ticket.

In soda fountains, restaurants, or the like, it is sometimes desirable that the customers receive checks on which may be later indicated the amount which they are to pay. There have therefore been designed machines which will present a blank check in position to be taken by a patron, and which, upon removal of the projected check, will operate to feed a strip of tickets, severing the foremost one and presenting it in position to be removed. Machines of this character generally depend for their operation upon the provision of a feeler or the like which normally rests upon a projecting ticket and which upon removal of the ticket is free to move to a position starting a cycle of operation.

It is the broad object of the present invention to provide an improved machine of this character which is of simple construction and positive in operation.

Since machines of this class depend upon the presence of a ticket in projected position to maintain them against operation they ordinarily run continuously upon the occurrence of any failure of the ticket strip feed to operate or upon failure of a supply. Since the machines are preferably provided with registers it is undesirable that the register shall continue to operate under the conditions just outlined. It is therefore an object of the present invention to provide an arrangement wherein the register will operate only when the machine is acting in normal fashion.

It is a further object of the invention to provide a machine in which the ticket is properly fed to avoid jamming.

Further objects of the invention relating primarily to details of construction will become apparent from the following description read in conjunction with the accompanying drawings in which:

Fig. 1 is a vertical section of the machine showing substantially what is visible when the left side plate of the machine is removed;

Fig. 2 is a left side elevation of the machine; and

Fig. 3 is a right side elevation of the same.

The machine as ordinarily constructed would consist of a housing for the mechanical elements supported by a suitable cabinet, counter, or the like. The housing which may take numerous forms comprises in the present instance a right hand side plate 2 and a left hand side plate 4 suitably connected by transverse bolts and spacers, these side plates all serving to support a suitable top plate.

The ticket strip which may be fed from a roll or folded supply passes upwardly into the machine through a guide 6 of one of the types generally used in ticket machines. This check strip, as will be pointed out later, is suitably fed along the guide, being severed at the upper portion of the machine so that a check finally rests in the position indicated in Fig. 1 at T projecting outwardly from a delivery guide 8.

On this check projecting from the delivery guide rests a finger 10 carried by a transverse shaft 12, the guide being suitably cut away in the path of the finger so that if the check is removed the finger and shaft may rotate in a counterclockwise direction as viewed in Fig. 1. The righthand end of shaft 12 carries a crank disc 14 to which is pivoted a link 16 urged downwardly by a spring 18. This link carries a cam following roller 20 engageable by a cam 22 on the main shaft 24, the lower end of the link being guided by the provision of a bifurcated end thereof embracing the shaft. The spring 18 serves to rock the shaft 12 when the ticket is removed. The lefthand end of shaft 12 carries another crank disc 26 which is connected by a link 28 with a rocking lever 30 pivoted at 32 to the frame and arranged so that one end thereof engages a pin 34 carried by a lever 36 to prevent clockwise rotation of this lever under the action

of a spring 40, the lever 36 being journaled upon a shaft 38 mounted in the frame. This lever 36 carries a pin 37 arranged to engage an arm 39 secured to the shaft 38. This arm 39 is normally urged against the pin 37 by a spring 41. It will thus be seen that as the lever 36 rocks under the action of spring 40 it will carry the arm 39 and the shaft 38 with it. On the other hand, when the lever 36 is moved against the action of spring 40 the arm 39 and the shaft may retain their previous positions. It may be noted that spring 41 is connected to the lever 36 and accordingly does not act to oppose the pull exerted by the spring 40 on the lever 36.

The shaft 38 carries an arm 42 to which is pivoted the switch member 44 arranged to close the circuit through the driving motor 48 by engaging contacts 46. This switch is of the type disclosed in my prior application, Serial Number 459,625, filed June 7, 1930.

The arm 42 besides serving to actuate the switch operates the counter 50. This is effected by the engagement of an arm carried by the counter within the forked end of the lever.

The shaft of motor 48 carries a pinion 52 meshing with the gear 54 connected to a shaft which carries a pinion 56 meshing with the gear 58, thus effecting a reduction from the motor speed. The gear 58 is journaled upon the shaft 24 and carries a tooth 60 arranged to engage the pawl 62 pivoted to the cam 64 which is secured to the shaft 24. Journaled on the shaft 24 is the member 66 provided with a cam groove within which extends a pin carried by the pawl 62. The member 66 carries a pin 68 engageable by the hooked end of the lever 36. This clutch arrangement is described and claimed in my application, Serial Number 495,026, filed November 12, 1930 to which reference may be made for details of construction. For the present case it may be pointed out that engagement of the hooked lever 36 with pin 68 effects a disengagement of the clutch so that gear 58 does not serve to drive shaft 24. On the other hand when the pin 68 is released the member 66 moves under the action of a spring causing the pawl 62 to move inwardly to a position to engage the tooth or lug 60 whereupon a driving connection between the gear and the shaft is provided.

Secured to the shaft 24 is a feed wheel 70 provided on a part of its periphery with a serrated portion 72 of greater radius, this serrated portion being adapted to engage the check strip within the guide 6 pressing it against the backing roller 73 and effecting its movement along the guide. The serrated portion is active in progressing the check strip, the smooth portion of the feed wheel 70 being of less radius so as to fail

to engage the strip and permit it to remain at rest during cutting.

The shaft 24 also carries a cam 74 which by engagement with a cam following roller 76 serves to rock the lever 78 to the end of which is pivoted a link 80 having a strip feeding pin 82 at its lower end. A spring 84 normally urges the follower into engagement with the cam and also holds the pin 82 within the evenly spaced perforations in the check strip.

The link 80 and the feed wheel 70 together serve to feed the ticket strip. It is to be noted that by the provision of the feed wheel closely adjacent the cutting knives, the movement imparted to the strip as an entirety is by a pulling rather than a pushing action whereby jamming between the pin 82 and the position of the knives is avoided.

The feed wheel 70 is provided with cam members 86 engaging a roller 88 carried by the lever 90 so as to impart oscillatory movements to the lever, and through it reciprocatory movements to the knife 92 which is engaged by the upper end of the lever. The parts are so positioned that the knife is moved to effect cutting when the check strip is at rest. The knife 92 is held downwardly by the pressure of a roller 94 under which it passes, the roller being urged downwardly by springs 96.

The cam 64 engages the following roller 98 carried by the rearward end of a lever 100 pivoted to the frame and urged in a clockwise direction as viewed in Figure 2 by a spring 104. When moved in a counterclockwise direction by the action of cam 64 the lever 100 is adapted to engage the pin 102 carried by the lever 36. The lever 100 carries a pin 106 arranged to move upwardly during the cycle of operation to hold the arm 39 and shaft 38 in a clockwise position, as viewed in Fig. 2, against the action of spring 41.

There is provided a hand operated lock to prevent operation of the machine at suitable times. This takes the form of a mechanically operable lever 108 having a notched end 110 engageable with the pin 112 on the forward end of the lever 30 the upstanding arm of lever 108 being urged rearwardly by a spring 114. This engagement of pin 112 within notch 110 serves to prevent lifting of the lever 30 under the action of link 28.

The elements of the machine having now been described its operation will be readily understood. When at rest the parts occupy the positions illustrated in the drawings, a check T being located in the guide 8 and serving to hold the finger 10 in the position illustrated. It is to be noted that at this time the clutch is disengaged and the switch opened. The link 80 is in its lowermost

position so that its pin 82 engages a hole in the check strip.

After the check is now removed the finger 10 is moved downwardly under the action of spring 18. After this occurs the shaft 12 rocks lifting, through the medium of link 28, the locking lever 30 so that as soon as pin 34 is cleared thereby the lever 36 rocks in a clockwise direction as viewed in Fig. 2 carrying the arm 39 with it and locating the shaft 38 to close the switch. The motor is thus started and rotation of shaft 24 initiated. As the shaft 24 commences to revolve the knife 92 is first retracted to provide a clear passage for the check strip. The lever 76 is then permitted to rock under the action of spring 84 to start the upward movement of the check strip by the engagement therewith of pin 82. As the link 80 moves upwardly its curved portion engages the base 81 of the notch in the guide member 83 so that it is rocked rearwardly disengaging the pin 82 from the ticket strip. The ticket strip is however further fed by the serrated edge 72. Accordingly while the pin 82 serves initially to insure proper alignment of the check strip so that it will ultimately properly lie in the path of knife 92, the major part of the feeding is accomplished by the serrated portion of the feed wheel 70. As the shaft 24 completes its rotation the lever 90 is moved to effect cutting of the strip, this cutting taking place as a smooth portion of feed wheel 70 comes into opposition with the check strip. When this rotation nears completion, the lever 78 is again rocked downwardly against the tension of spring 84 and the pin 82 drops into engagement with the strip either entering a hole therein at this time or being located in position so that during its movement in the next cycle of operation it will engage a hole therein.

During this period of rotation the clutch remains engaged and the circuit through the motor closed. As the rotation nears its completion the high part of cam 64 rocks the lever 100 so that its forward end moves upwardly. At this time the lever 36 is located in an extreme clockwise position under the action of spring 40 so that the member 39 is out of the path of pin 106 which accordingly moves upwardly in front of it. During the latter part of the rocking of the lever 100 it engages the pin 102, moving the hooked end of arm 36 into the path of pin 68. By reason of this the pin 68 is engaged and the member 66 held against movement so that the pawl 62 is thrown out of engagement with the tooth 60. At the end of the rotation just before positive stoppage takes place the roller 98 rides off the raised portion of the cam 64 and pin 106 clears the member 39. Accordingly the spring 41 acts to open the motor circuit

thereby stopping the motor. It is to be noted that overrun of the motor effects no action merely resulting in an indefinite position of the tooth 60. By reason of the provision of pin 106 on member 100 it will be seen that the motor will not be stopped by opening of the switch until the disengagement of the clutch and movement of the shaft 24 to its final position is assured.

During the operation of the machine the finger 10 is lifted by the action of cam 22 engaging the roller 20 thereby preventing the finger from interfering with the feed of the strip. It is to be noted that this action may occur without interference with the lever 30 which overlies the pin 34 because of the provision of the slotted connection between the ring 28 and the pin on disc 26.

The counter 50 is operated to register the issuance of a check upon the closure of the switch 44. If there occurs a failure of tickets resulting in the continued lowered position of the finger 10 the switch remains closed by reason of the fact that while the lever 100 is rocking upwardly against pin 102, nevertheless the switch is prevented from opening by engagement of pin 106 in front of member 39. In other words, even though upon each rotation of the shaft the lever 36 rocks, nevertheless this rocking does not permit the spring 41 to rock the shaft 38. As soon as the forward end of lever 100 moves downwardly away from pin 102 the lever 36 again moves outwardly because of the raised position of rocking lever 30 and accordingly the pin 37 retains the member 39 in rearward position. Since by reason of the above the switch is never permitted to open during this abnormal operation it follows that the counter does not register.

It is to be noted that the cam 22 releases roller 20 before roller 98 rides off the high point of cam 64.

It will be obvious that numerous variations may be made in details of construction without departing from the spirit of the invention as defined in the following claims. In these claims the term "check" is to be broadly construed to include tickets as well as what are popularly known as checks.

What I claim and desire to protect by Letters patent is:

1. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; means for presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor, a switch controlling the operation of the motor, and a member arranged to engage a check in delivering position and effective upon its removal to initiate a cycle of operation; and means for

moving the last named member out of the path of the advancing end of the strip during the operation of the machine.

2. A check issuing machine comprising
5 means for guiding a check strip; means for severing a check from the strip; means for presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including
10 a motor, a switch controlling the operation of the motor, and a member arranged to engage a check in delivering position and effective upon its removal to initiate a cycle of operations; means for normally opening the switch at the end of a
15 cycle of operation; and means for moving the last named member out of the path of the advancing end of the strip during the operation of the machine, said member being released to engage a check prior to the
20 time of opening of the switch.

3. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; means for
25 presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor, a switch controlling the operation of the motor, and a member arranged to engage a check in delivering position and effective upon its removal to initiate a cycle of operations; means for normally opening the switch at the end of a
30 cycle of operation; and means for moving the last named member out of the path of the advancing end of the strip during the operation of the machine, said member being released to engage a check prior to the time of opening of the switch, the switch
35 being opened if a check is in position to be engaged by the released member, but remaining closed if no check is in such position.

4. A check issuing machine comprising
45 means for guiding a check strip; means for severing a check from the strip; means for presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor, a switch controlling the operation of the motor, and a member effective upon removal of a check from delivering position to initiate a cycle of operation; said machine being adapted to operate continuously when said member is not
50 controlled by a ticket, and the switch being arranged to remain closed throughout such continuous operation.

5. A check issuing machine comprising
60 means for guiding a check strip; means for severing a check from the strip; means for presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor, a switch controlling the operation

of the motor, and a member arranged to engage a check in delivering position and effective upon its removal to initiate a cycle of operation; and manually controlled means for rendering the member ineffective
70 to initiate a cycle of operation upon removal of a check.

6. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; means for
75 presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor, a switch controlling the operation of the motor, and a member arranged to engage a check in delivering position and effective upon its removal to initiate a cycle of operation; and manually controlled means for restraining the member against
80 movement upon removal of a check.

7. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; and means for feeding the strip along the guiding means; said feeding means comprising a
90 rotary feed wheel and a reciprocatory member engageable with holes in the strip.

8. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; and means for feeding the strip along the guiding means; said feeding means comprising a
95 rotary feed wheel and a reciprocatory member engageable with holes in the strip, the reciprocatory member first engaging and moving the strip and the rotary feed wheel thereafter engaging and moving the strip.

9. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; and means for feeding the strip along the guiding means; said feeding means comprising a
100 rotary feed wheel and a reciprocatory member engageable with holes in the strip, the reciprocatory member first engaging and moving the strip and the rotary feed wheel thereafter engaging and moving the strip, said reciprocating member releasing the strip after its engagement by the rotary feed
105 wheel.

10. A check issuing machine comprising means for guiding a check strip; means for severing a check from the strip; means for presenting a severed check in delivering position; means for effecting a cycle of operation of the machine, said last means including a motor and a member effective upon removal of a check from delivering position to initiate a cycle of operation; and an element normally movable during each cycle of operation of the machine; said machine being adapted to operate continuously when said member is not controlled by a ticket, and the element being arranged to remain stationary
110 throughout such continuous operation.

70

75

80

85

90

95

100

105

110

115

120

125

130

11. A check issuing machine comprising a check strip feeding mechanism; a cutting mechanism for severing the end portion of said strip; means whereby the act of removing the severed portion of the strip from the machine causes said strip to be fed forwardly and another section of the same to be severed; and an element normally operative during each cycle of operation of the machine; said machine being adapted to operate continuously when there is no severed portion of the strip in position to be removed, and said element being arranged to be inoperative during such continuous operation.

REUBEN H. HELSEL.

10

75

15

80

20

85

25

90

30

95

35

100

40

105

45

110

50

115

55

120

60

125

65

130